



BOWMAN, BARRETT & ASSOCIATES INC.

CONSULTING ENGINEERS

**CC&P BRIDGE W 17-6  
OVER FAI ROUTE 88 AND ADVANCE RAMP  
SECTION: 3838 (.1, .2 & .3) B  
COOK COUNTY**

**CONSTRUCTION STAGING AND WORK BREAKDOWN**

The CN/ICRR will attempt to obtain eight (8) hour work windows to permit the Contractor to perform his work on a daily schedule and will not interfere with rail service. The Railroad forces, with assistance from the Contractor, will remove the track panels and ballast for the Contractor to perform his activities for the staged construction. At the end of each work window the Contractor will assist the Railroad forces in replacement of the track and ballast leaving the track in a secure condition for train operations. This arrangement will be identified by an asterisk\* in the action column below.

**CONSTRUCTION ACTIVITIES**

**ACTION BY**

**STAGE 1**

- |  |                   |
|--|-------------------|
| a. Panel track for temporary trestle construction  | CN/ICRR           |
| b. Remove track panel and drive<br>piles at temporary bent 1.<br>Cut off piles below tie. Replace track panel.               | State Contractor* |
| c. Remove track panel and drive first row<br>of piles at temporary pier 1.<br>Cut off piles below tie. Replace track panel.  | State Contractor* |
| d. Remove track panel and drive second row<br>of piles at temporary pier 1.<br>Cut off piles below tie. Replace track panel. | State Contractor* |
| e. Remove track panel and drive first row of<br>piles at temporary pier 2.<br>Cut off piles below tie. Replace track panel.  | State Contractor* |
| f. Remove track panel and drive second row of<br>piles at temporary pier 2.<br>Cut off piles below tie. Replace track panel. | State Contractor* |

**EXHIBIT 2**

**SHEET 1 of 7**

**REVISED 11-1-99**

**REVISED 12-3-99**



- g. Remove track panel and drive first row of  
piles at temporary pier 3.  
Cut off piles below tie. Replace track panel. State Contractor\*
- h. Remove track panel and drive second row of  
piles at temporary pier 3.  
Cut off piles below tie. Replace track panel. State Contractor\*
- i. Remove track panel and drive first row of  
piles at temporary pier 4.  
Cut off piles below tie. Replace track panel. State Contractor\*
- j. Remove track panel and drive second row of  
piles at temporary pier 4.  
Cut off piles below tie. Replace track panel. State Contractor\*
- k. Remove track panel and drive first row of  
piles at temporary pier 5.  
Replace track panel. State Contractor\*
- l. Remove track panel and drive second row of  
piles at temporary pier 5.  
Replace track panel. State Contractor\*
- m. Remove track panel and drive first row of  
piles at temporary pier 6.  
Replace track panel. State Contractor\*
- n. Remove track panel and drive second row of  
piles at temporary pier 6.  
Replace track panel. State Contractor\*
- o. Remove track panel and drive piles at  
temporary bent 2 for trestle and new pier 2.  
Cut off piles below tie. Replace track panel. State Contractor\*



**STAGE 2**

- a. Remove track panel and excavate at temporary bent 1.  
Cut off piles and install steel pile cap.  
Backfill and tamp. Replace track panel. State Contractor\*
- b. Remove track panel, excavate for temporary pier 1 cap,  
cut off piles, install steel cap on piles,  
install precast concrete cap,  
backfill to base of rail and tamp. Replace panel. State Contractor\*
- c. Remove track panel, excavate for temporary pier 2 cap,  
cut off piles, install steel cap on piles,  
install precast concrete cap, backfill to  
base of rail and tamp. Replace panel. State Contractor\*
- d. Remove track panel, excavate for temporary pier 3 cap,  
cut off piles, install steel cap on piles,  
install precast concrete cap, backfill to  
base of rail and tamp. Replace panel. State Contractor\*
- e. Remove track panel, excavate for temporary pier 4 cap,  
cut off piles, install steel cap on piles,  
install precast concrete cap, backfill to  
base of rail and tamp. Replace panel. State Contractor\*
- f. Remove track panel, excavate for temporary pier 5 cap,  
cut off piles, install steel cap on piles,  
install precast concrete cap, backfill to  
base of rail and tamp. Replace panel. State Contractor\*



- g. Remove track panel, excavate for temporary pier 6 cap, cut off piles, install steel cap on piles, install precast concrete cap, backfill to base of rail and tamp. Replace panel.

State Contractor\*

- h. Remove track panel and excavate at temporary bent 2. Cut off piles and install steel pile cap for trestle. Cut off piles for new pier 2. Backfill and tamp. Replace track panel.

State Contractor\*

### STAGE 3

- a. Remove existing track panels for temporary trestle spans 6 and 7 and stockpile track panels. Excavate to top of caps and erect spans 6 and 7. Install temporary bulkhead on the existing bridge deck at the existing east abutment and at temporary pier 5. Install new track panels with bridge ties and rails on spans 6 and 7.

State Contractor\*

- b. Remove existing track panels for temporary trestle spans 4 and 5 and stockpile track panels. Excavate to top of caps and erect spans 4 & 5. Install temporary bulkhead at temporary pier 3. Install new track panels with bridge ties and rails on spans 4 and 5

State Contractor\*

- c. Remove existing track panels for temporary trestle spans 2 and 3 and stockpile track panels. Excavate to top of caps and erect spans 2 and 3. install temporary bulkhead at temporary pier 1. Install new track panels with bridge ties and rails on spans 2 and 3.

State Contractor\*

**EXHIBIT 2**  
**SHEET 4 of 7**  
**REVISED 11-1-99**  
**REVISED 12-3-99**



- d. Remove existing track panels for temporary trestle span 1 and stockpile track panels. Excavate to top of cap and erect bulkhead at temporary bent 1. Erect span 1 and install new track panels with bridge ties and rails.

State Contractor\*

- e. Excavate to bottom of precast pier caps and grout pile recess pockets in caps.

State Contractor

- f. Erect walkway and handrail on temporary trestle spans.

State Contractor

#### **STAGE 4**

- a. Install form work for new pier 2 at the existing east abutment and pour new pier cap.

State Contractor

- b. Excavate for new pier 1 and new east abutment. Install transverse bracing on steel piles of the temporary piers as excavation proceeds.

State Contractor

- c. Construct new pier 1, east abutment and the north retaining wall.

State Contractor

- d. Install underdrains behind new east abutment and north retaining wall and backfill area with porous granular embankment.

State Contractor

#### **STAGE 5**

- a. Construct erection and sliding bents on south side of temporary trestle.

State Contractor

- b. Erect new steel thru plate girder spans on the erection bents. Install membrane waterproofing on the new decks.

State Contractor

**EXHIBIT 2**  
**SHEET 5 of 7**  
**REVISED 11-1-99**  
**REVISED 12-3-99**



- c. Install temporary bulkheads at ends of span 1 to retain ballast and place 4 inches of ballast on the span in erection position.  
Install new track panels on new span 1. State Contractor

Note:

The Railroad will provide work window to permit the Contractor to roll-in new span 1 into place between trains.

- d. Remove temporary trestle spans 1 thru 5 including, temporary pier caps and bent caps. State Contractor
- e. Modify temporary trestle span 6 to span between new pier 2 and temporary pier 6. State Contractor
- f. Roll new steel span 1 into place. State Contractor
- g. Install precast concrete blocks in east abutment backwall. State Contractor
- h. Install closure floor plates, waterproofing and upper floor plates at the east abutment. State Contractor
- i. Place remainder of porous granular embankment behind abutment and install subballast. State Contractor
- j. Install ballast and new track panels on the embankment east of the new abutment. State Contractor
- k. Install remainder of ballast, complete compaction and the dressing of the top lift on Span 1 and approach. CN/ICRR

Note:

The Railroad will provide work window to permit the Contractor to lift-in new span 2 into place between trains.

- l. Remove temporary trestle spans 6 and 7 including bent caps. State Contractor
- m. Position cranes for lift in of new span 2 and lift the span into place. State Contractor

**EXHIBIT 2**  
**SHEET 6 of 7**  
**REVISED 11-1-99**  
**REVISED 12-3-99**

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- |   |                  |
|---|------------------|
| n. Install precast concrete blocks in new pier 2 backwall.  | State Contractor |
| o. Install closure floor plates, waterproofing and upper floor plates at pier 1 and the backwall of pier 2. | State Contractor |
| p. Install 4 inches of ballast and new track panels on new span 2 in final position.                        | State Contractor |
| q. Install remainder of ballast, complete compaction and dressing of top lift on span 2.                    | CN/ICRR          |
| r. Remove piles from temporary piers 3 thru 6.  | State Contractor |
| s. After excavation for advance ramp, construct the south retaining wall at new pier 1.                     | State Contractor |
| t. Construct slope paving at the new pier and east abutment.  | State Contractor |

**EXHIBIT 2**  
**SHEET 7 of 7**  
**REVISED 11-1-99**  
**REVISED 12-3-99**

ILLINOIS CENTRAL RAILROAD  
OFFICE OF ENGINEER-TRACK

HILLSIDE, IL.  
V.S. IL-1

FREEPORT DISTRICT  
M.P. W 18

MIDWEST REGION  
FILE #3 2 2000

TRACKWORK REQUIRED TO CONSTRUCT BRIDGE AT THE "HILLSIDE BOTTLENECK"

2000 PRICES

ESTIMATED QUANTITIES NOT TO BE USED TO REQUISITION MATERIAL

COST CODE	DESCRIPTION	UNIT COST	QUANTITY	UNIT	TOTAL COST
=====					
FHPM	-----				
ADDITIONS AND BETTERMENTS					
-----					
FOREMAN		18.49	304.00	M.H.	5620.96
TRACKMAN		16.15	304.00	M.H.	4909.60
MACHINE OPERATORS		18.20	516.00	M.H.	9391.20
SIGNAL MAINTAINER		19.01	52.00	M.H.	988.52
TIE CREO CROSS 7"X9"X8'6 OAK		27.03	50.00	EACH	1351.50
BALLAST MTL-2		15.00	250.00	TON	3750.00
RAIL SECOND HAND VALUATION		198.08	3.00	N.T.	594.24
SIGNAL MATERIAL		100.00	1.00	L.S.	100.00
MATERIAL			5795.74		
SALES TAX 0.05					289.79
HANDLING 0.0610					371.22
LABOR			20910.28		
ENGINEERING					0.00
ACCOUNTING					261.38
OTHER			0.00		
COMPOSITE ADD. - DIRECT LABOR					18447.73
COMPOSITE ADD. - ENGIN + ACCT LABOR					217.70
SUBSISTENCE					0.00
RENTAL OF EQUIPMENT					3136.54
CONTINGENCIES					0.00
SUB-TOTAL A&B					49430.38





BOWMAN, BARRETT & ASSOCIATES INC.

CONSULTING ENGINEERS

November 2, 1999

Mr. Donald Lewis  
Assistant Engineer of Structures  
Canadian National Illinois Central Railroad  
17641 South Ashland Avenue  
Homewood, Illinois 60430-1345

Subject: Agreement for Engineering Service, Phase III  
CC&PRR Bridge W 17-6 over I-88  
Hillside, Illinois

Dear Mr. Lewis,

In accordance with our Agreement for Engineering Services dated January 29, 1999 we are submitting our proposal for Phase III.

Phase III will include the following:

1. Attend a preconstruction meeting.
2. Provide a Field Engineer on construction as needed.
3. Review Contractors Construction Procedures.
4. Review and process shop drawing, brochures and samples for approval.
5. Review erection and sliding bent plans and computations.
6. At the completion of construction, our Engineer will inspect the Project with the CN/ICRR and IDOT and assist in the preparation of a "Punch List" as needed.
7. BB&A will adhere to the current FRA safety regulations for employees on bridges.

Phase III wil *not* include the following:

1. Construction Layout
2. Material Testing

BOWMAN, BARRETT & ASSOCIATES, INC.

CONSULTING ENGINEERS



We propose remuneration be handled on an hourly basis as follows:

1. All personnel used on the project will be charged at the actual cost of labor, as covered in our labor payroll records, with a surcharge of 150% to cover overhead and profit.
2. The payment for the Phase III work is estimated to be \$75,000.00. The scope of this work may be expanded to meet the Railroad's needs.
3. All records pertaining to the remuneration for our services rendered will be made available to the railroad for their audit for a period not to exceed one year after the final statement has been rendered.

For your information, we are attaching the following material:

Exhibit A - Hourly Rate Range, Consultant's Regular Staff

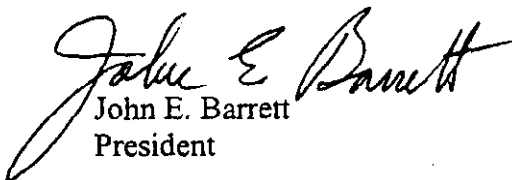
Exhibit B - List of Bowman, Barrett & Associates, Inc.'s Insurance Coverage  
(Certificates will be issued upon request.)

Exhibit C - Estimate of Man Hours and Fee Computation.

If the aforementioned terms are acceptable to you, Please execute on of the copies in the space provided below and return it to us for our files.

Should you favor us with this commission, you may be assured of our fullest cooperation. We wish to thank you for the opportunity to submit this proposal.

Very truly yours,

  
John E. Barrett  
President

ACCEPTED:

By: 

Title: Chief Engineer US Oper.

Date: Nov 8, 1999

BOWMAN, BARRETT & ASSOCIATES INC.



CONSULTING ENGINEERS

**EXHIBIT A**  
**Hourly Rate Range - Consultant's Regular Staff**  
**For Fiscal Year 2000 and 2001**

<u>Classification</u>		<u>From</u>		<u>To</u>
Principal	\$	45.00	\$	75.00
Project Manager		35.00		50.00
Project Engineer		26.00		38.00
Engineer		19.00		32.00
Technologist/CADD Operator		18.00		26.00
Drafter/Technician		12.50		18.00
Resident Engineer		26.00		40.00
Inspector		12.00		26.00
Surveyor		24.00		28.00
Party Chief		22.00		26.00
Instrument Man		18.00		25.00
Rodman		12.00		18.00
Clerical		12.00		20.00
Intern		8.00		12.00

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS



**EXHIBIT B**  
**BOWMAN, BARRETT & ASSOCIATES INC.'S INSURANCE COVERAGE**

1. Professional Liability Insurance in an amount up to ONE MILLION DOLLARS (\$1,000,000) per occurrence with FIFTY THOUSAND DOLLARS (\$50,000) deductible.
2. Workers Compensation Insurance covering the obligations of the Engineering in accordance with the provisions of the Workers Compensation Law of the State of Illinois.
3. Public Liability Insurance insuring all damages arising out of bodily injury or death resulting therefrom, to one person in any accident, not less than ONE MILLION DOLLARS (\$1,000,000); and to two or more persons in any one accident not less than TWO MILLION DOLLARS (\$2,000,000); and property damage liability insurance, insuring against any damages to property in any accident of not less than ONE MILLION DOLLARS (\$1,000,000).
4. Comprehensive Automobile Liability Insurance:

Bodily Injury	Each Occurrence	\$1,000,000
Property Damage	Single Limit	\$1,000,000
5. Umbrella Coverage - In addition to the limits of coverage specified above, an Umbrella or Excess Liability policy of not less than FOUR MILLION DOLLARS (\$4,000,000) for any one occurrence and subject to the same aggregate over the Comprehensive Automobile Liability, Employer's Liability, and Comprehensive General Liability coverage is provided.
6. In addition to the insurance requirements of 1, 2, 3, 4 and 5 above, BB&A has in force the following insurance: Workers Compensation Insurance. The policy includes coverage for occupational disease to required statutory limits, employer's liability of ONE MILLION DOLLARS (\$1,000,000) to include FELA, if appropriate, and an "all states" endorsement.

**Note:** Certificates will be issued upon request.



**EXHIBIT C**  
**ESTIMATE OF MANHOURS**  
**CC&PRR BRIDGE W 17-6 OVER I-88**  
**HILLSIDE, ILLINOIS**

<u>TASK</u>	<u>MANHOURS</u>
Attend Preconstruction Meeting	8
Design Engineer attend field progress meetings & answer Contractor's RFI's	120
Field Engineer 60 weeks @ 8 hrs. per week	480
Review Contractors various Construction Procedures	80
Review and Process Shop Drawings, Brochures and Samples for Approval	120
Review Erection and Sliding Bents and Computation	80
Assist in preparation of "Punch List"	10
Miscellaneous CM assignments as requested by Railroad	80

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**Estimated Total      978 mhrs.**

Fee Computation

978 Manhours x \$30.00	\$29,340.00
Overhead & Profit 150%	\$44,010.00

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**Subtotal      \$73,350.00**

Direct Costs	
Auto 60 days @ 60 miles x \$0.31	\$ 1,116.00

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**Total      \$74,466.00**

**Say      \$75,000.00**